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CURRENT SERIAL RECORDS

**WATER SUPPLY OUTLOOK**  
and  
**FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS**  
for  
**COLORADO and NEW MEXICO**

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE  
and  
COLORADO AGRICULTURAL EXPERIMENT STATION  
STATE ENGINEER of COLORADO  
and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service, Corps of Engineers and other Federal, State, and private organizations.

AS OF  
**APR. 1, 1965**

# UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

## *To Recipients of Water Supply Outlook Reports:*

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Soil Conservation Service, 511 N.W. Broadway - Room 507, Portland, Oregon 97209.

## PUBLISHED BY SOIL CONSERVATION SERVICE

<u>REPORTS</u>	<u>ISSUED</u>	<u>LOCATION</u>	<u>COOPERATING WITH</u>
<b>RIVER BASINS</b>			
WESTERN UNITED STATES _____	MONTHLY (FEB.-MAY) _____	PORTLAND, OREGON _____	ALL COOPERATORS
BASIC DATA SUMMARY _____	OCTOBER 1 _____	PORTLAND, OREGON _____	ALL COOPERATORS
<b>STATES</b>			
ALASKA _____	MONTHLY (MAR.-MAY) _____	PALMER, ALASKA _____	ALASKA S.C.D.
ARIZONA _____	SEMI-MONTHLY (JAN. 15 - APR. 1) _____	PHOENIX, ARIZONA _____	SALT R. VALLEY WATER USERS ASSOC. ARIZ. AGR. EXP. STATION
COLORADO AND NEW MEXICO _____	MONTHLY (FEB.-MAY) _____	FORT COLLINS, COLORADO _____	COLD. STATE UNIVERSITY COLD. STATE ENGINEER N. MEX. STATE ENGINEER
IDAHO _____	MONTHLY (JAN.-JUNE) _____	BOISE, IDAHO _____	IDAHO STATE RECLAMATION ENGINEER
MONTANA _____	MONTHLY (JAN.-JUNE) _____	BOZEMAN, MONTANA _____	MONT. AGR. EXP. STATION
NEVADA _____	MONTHLY (JAN.-MAY) _____	RENO, NEVADA _____	NEVADA DEPT. OF CONSERVATION AND NATURAL RESOURCES DIVISION OF WATER RESOURCES
OREGON _____	MONTHLY (JAN.-JUNE) _____	PORTLAND, OREGON _____	OREG. STATE UNIVERSITY OREGON STATE ENGINEER
_____	MONTHLY (JAN.-JUNE) _____	SALT LAKE CITY, UTAH _____	UTAH STATE ENGINEER
WASHINGTON _____	MONTHLY (FEB.-JUNE) _____	SPOKANE, WASHINGTON _____	WN. STATE DEPT. OF CONSERVATION
WYOMING _____	MONTHLY (FEB.-JUNE) _____	CASPER, WYOMING _____	WYOMING STATE ENGINEER

## PUBLISHED BY OTHER AGENCIES

<u>REPORTS</u>	<u>ISSUED</u>	<u>AGENCY</u>
BRITISH COLUMBIA _____	MONTHLY (FEB.-JUNE) _____	WATER RESOURCES SERVICE, DEPT. OF LANDS, FOREST AND WATER RESOURCES, PARLIAMENT BLDG., VICTORIA, B.C., CANADA
CALIFORNIA _____	MONTHLY (FEB.-MAY) _____	CALIF. DEPT. OF WATER RESOURCES, P.O. BOX 388, SACRAMENTO, CALIF.



FEDERAL-STATE COOPERATIVE  
SNOW SURVEYS AND WATER SUPPLY FORECASTS  
for

COLORADO RIVER, PLATTE RIVER  
ARKANSAS RIVER AND RIO GRANDE  
DRAINAGE BASINS

Issued

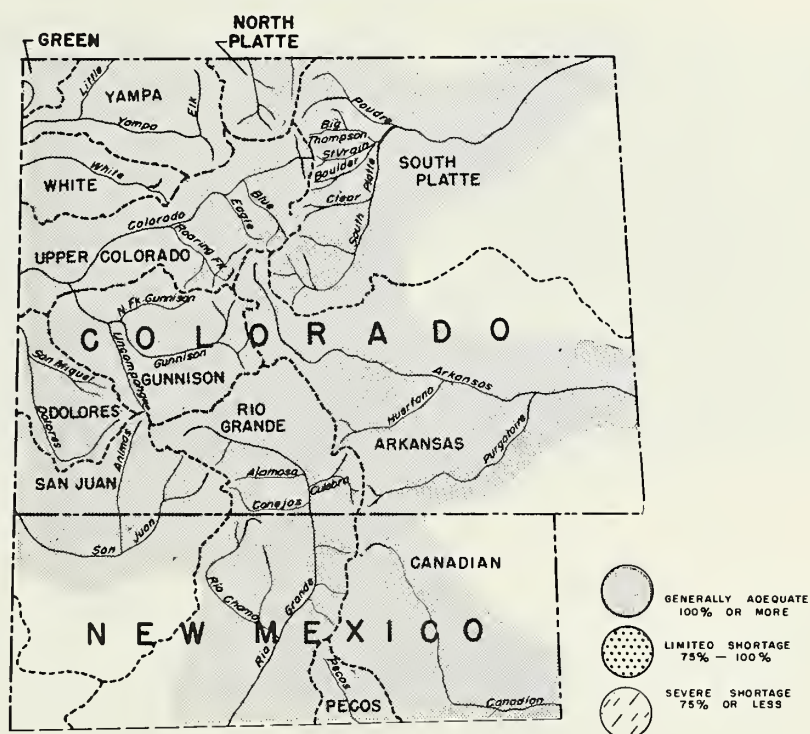
April 1, 1965

Report Prepared By  
Jack N. Washichek, Snow Survey Supervisor  
and  
Don W. McAndrew, Assistant Snow Survey Supervisor  
Fort Collins, Colorado

United States Department of Agriculture  
Soil Conservation Service  
and  
Colorado Agricultural Experiment Station  
Fort Collins, Colorado

State Engineer of Colorado  
Denver, Colorado  
and  
State Engineer of New Mexico  
Santa Fe, New Mexico

## WATER SUPPLY OUTLOOK



THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAM-FLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO  
as of  
April 1, 1965



**COLORADO** —

The snow pack in Colorado is above normal throughout the state. The Northern mountains which feed the Laramie, North Platte and the Cache La Poudre Drainages are only slightly above normal. The Central and Southern areas have considerably more snow, however. The water thirsty Rio Grande and Arkansas Drainages are loaded with snow this year. Streams comprising the Colorado Drainage should flow 120 - 140% of normal this season. Streams in the Grand Mesa area will only be slightly above normal.

Abundant low elevation snow should produce good early water and good flows in the smaller tributaries. The above normal high elevation snow should sustain river flows late into the irrigation season.



**NEW MEXICO**

The mountains in Northern New Mexico and Southern Colorado are loaded with snow. Water prospects for the coming season on the Upper and Middle Rio Grande are the most optimistic since 1957. The good snow conditions in the lower elevations will supply good early water and also good flows in the smaller tributaries. The high elevation snow pack should sustain streamflow late into the irrigation season.

Mountain soil moisture is below normal, but better than last year. Reservoir storage is the only sore spot, carry-over storage is practically non-existent.

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WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

WATERSHED I -

SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson, Longmont, Boulder Valley, Jefferson, Teller-Park, Douglas County, Morgan, Kiowa, West Arapahoe, West Adams, East Adams, Platte Valley, Southeast Weld, and West Greeley Soil Conservation Districts.

WATERSHED II -

ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero, East Otero, and Big Sandy Soil Conservation Districts.

WATERSHED III -

RIO GRANDE WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Mosca Hooper, Mt. Blanca, Sanchez, and Culebra Soil Conservation Districts.

WATERSHED IV -

RIO GRANDE WATERSHED (NEW MEXICO)

Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrieth, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.

WATERSHED V -

DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin, Dove Creek, Dolores, Mancos, LaPlata, Pine River, San Juan, and Glade Park Soil Conservation Districts.

WATERSHED VI -

GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompahgre Soil Conservation Districts.

WATERSHED VII -

COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.

WATERSHED VIII -

YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.

WATERSHED IX -

LOWER SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Sedgwick, South Platte, Haxton Peetz, Padroni, Morgan Rock Creek and Yuma Soil Conservation Districts.



# COLORADO'S NEW ROBOT SNOW SURVEYOR

Summer View



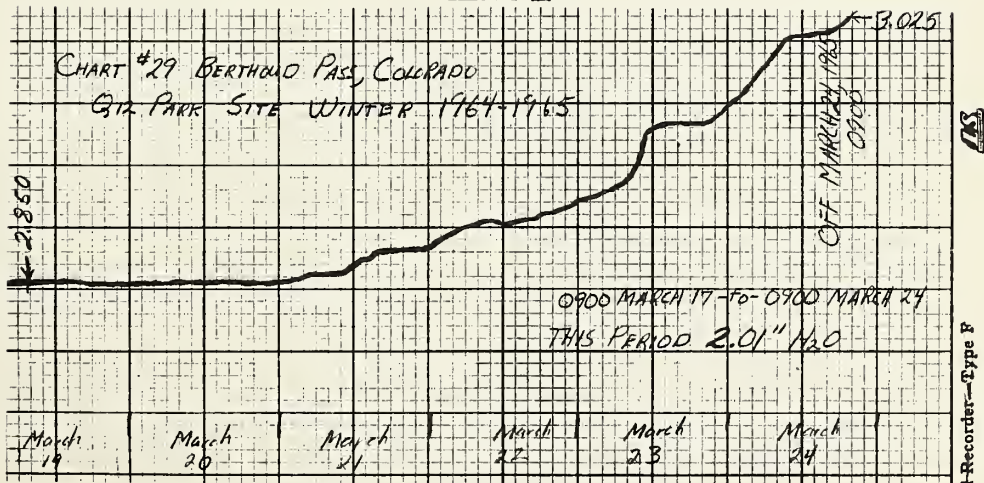
12' Pressure Pillow and Its Manometer and Recorder House in the Background

Winter View



The Pillow Now Buried Beneath 76 Inches of Snow

Pillow Talk



This is a Print-Out From the Pillow's "F" Recorder.  
It said "there is 23.2 inches of water on the 24th of March".

High in the frozen splendor of Colorado's winter vastness lives the Robot Snow Surveyor or "Snow Pillow". This installation is at the Berthoud Summit Snow Course, atop 11,300 ft. Berthoud Pass.

The "Pillow" is a reinforced butyl tube about 6 inches thick and 12 feet in diameter. The "Pillow" is filled with 350 gallons of antifreeze and is connected to a vertical standpipe, or manometer. An "F" recorder, records changes of height of fluid in the manometer. A small radio transmitter can be attached, to transmit the information miles away, if desired.

As the snow falls on the "Pillow" or melts, or is mechanically removed by wind, the level of the fluid in the standpipe varies in accordance with the water content (or weight) of the snow. As the float connected to the recorder moves up or down, the recorder makes a permanent record of the snow pack at that location.

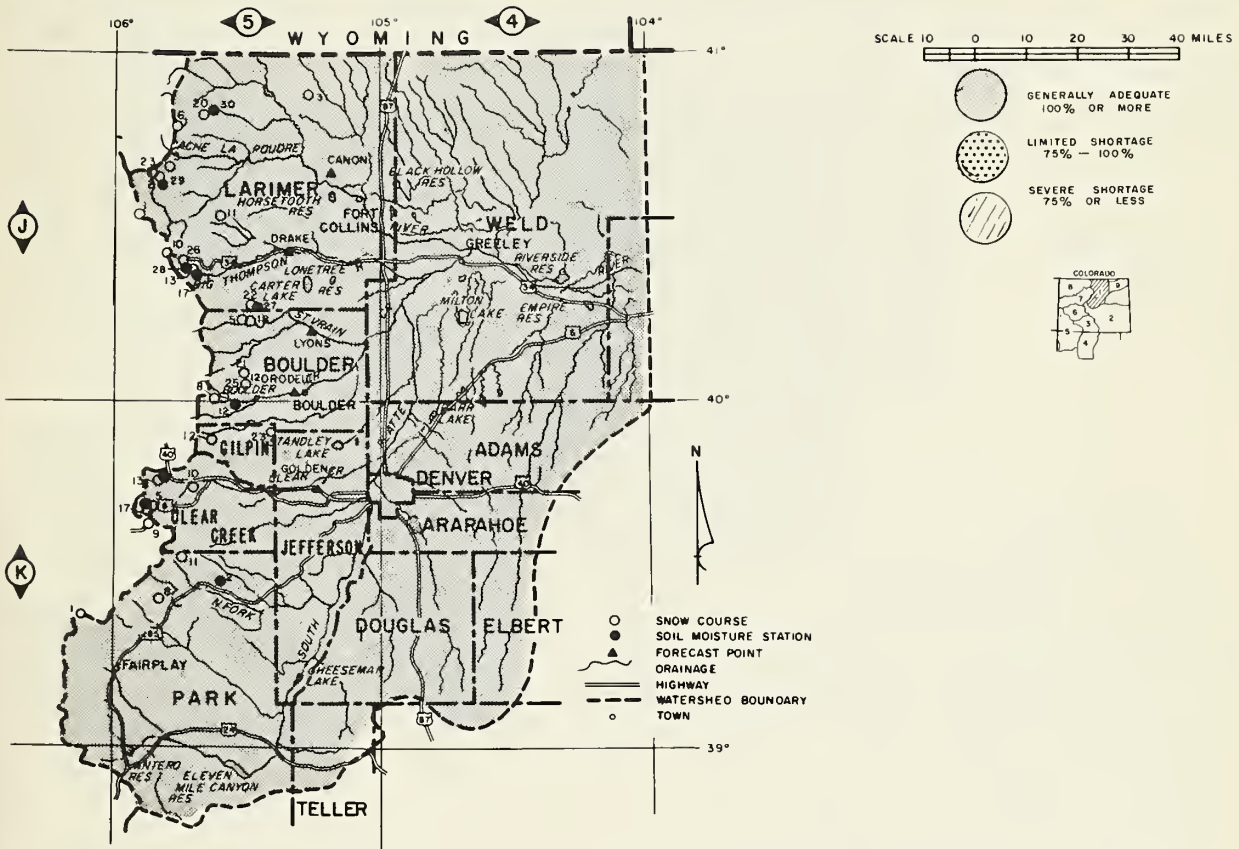
The new Robot Snow Surveyor is an improvement over the human snow surveyor in many aspects. First of all, he lives in the snow 24 hours a day, all season long. He records the change in the snow pack by the hour. This will give us much information concerning our winter snowfall that we don't know now. It will tell us how much snow is removed by wind, how much fell in a given snowstorm and the date and amount of snow pack at it's peak, as well as how fast it melts. Forecasts will be more reliable with this additional information.

If this mechanical snow surveyor proves up to expectations, he will probably be joined by many cousins, in the near future, in the remote and difficult terrains of Colorado's high mountains.



WATER SUPPLY OUTLOOK  
FOR THE SOIL CONSERVATION DISTRICTS IN THE  
**SOUTH PLATTE RIVER WATERSHED IN COLORADO**  
as of  
April 1, 1965

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** — Water supplies should be adequate for most irrigation requirements. Water conservation will have to be watched to be sure of good supplies for the entire year.

**SNOW** — The snow pack over the entire South Basin is now 126% of the 15 year average. The St. Vrain and Clear Creek are the highest percentage wise and decrease as you go North toward the Wyoming line.

**SOIL MOISTURE** — Soil moisture in the mountains of the South Platte is similar to last year at this time and slightly drier than normal. Valley soils were listed as fair to poor, however, a snow and rainstorm occurring at the writing of this report may have helped some.

**RESERVOIR STORAGE** — Carry-over storage remains relatively good. Current storage figures show the South Platte Reservoirs contain just about normal storage for this time of year. These will be an excellent supplement for the summer runoff.

**FORECASTS** — Forecasts are based on normal amounts of precipitation for the remainder of the year. Forecasts range from a low of 116 on the Cache La Poudre and Big Thompson to a high of 137 on the Clear and St. Vrain.

**"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"**

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

E. A. Nicholson, Area Conservationist,  
Littleton, Colorado

# SNOW

SNOW		CURRENT INFORMATION			PAST RECORD	
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1940-52
<u>South Platte River and Tributaries</u>						
Baltimore	5K23	3/31	33	9.0	6.6	-
Berthoud Falls	5K13	3/31	64	20.0	12.8	14.5*
Big South	5J3	3/27	22	4.1	1.9	2.9
Boulder Falls	5J25	3/31	58	20.3	10.1	15.1*
Cameron Pass	5J1	3/30	79	27.7	25.4	27.4
Chambers Lake	5J2	3/27	51	15.4	7.0	9.7
Copeland Lake	5J18	3/31	34	10.0	3.3	5.3*
Deadman Hill	5J6	4/2	56	17.5	14.8	17.5
Deer Ridge	5J17	3/30	30	8.6	4.0	5.9*
Empire	5K10	3/31	41	11.1	7.5	8.1*
Geneva Park	5K11	3/30	30	8.5	3.8	4.1*
Grizzly Peak	5K9	3/30	83	27.4	14.5	19.2
Hidden Valley	5J13	3/30	49	13.8	10.0	12.7
Hoosier Pass	6K1	3/30	66	20.4	9.3	14.2
Hour Glass Lake	5J11	3/31	35	10.2	4.7	8.6
Jefferson Creek	5K8	3/30	51	13.8	5.4	10.4*
Lake Irene	5J10	3/27	89	27.1	15.4	23.7
Long's Peak	5J22	3/28	65	17.8	7.5	12.5*
Lost Lake	5J23	3/27	57	15.1	9.0	13.0
Loveland Lift No. 1	5K24	3/30	97	32.9	20.3	-
Loveland Pass	5K5	3/30	63	19.9	12.7	16.7
Pine Creek	5J31	3/29	12	3.3	1.2	-
Red Feather	5J10	3/29	32	7.5	6.7	8.8*
Two Mile	5J26	3/30	60	18.0	9.1	16.4*
University Camp	5J8	3/31	77	27.7	13.0	24.4
Ward	5J21	3/29	39	10.1	3.5	7.2*
Wild Basin	5J5	3/31	62	17.2	7.8	14.7

## STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR AVERAGE	AVERAGE 1940-52
Big Thompson at Drake (2)	125	114	110
Boulder at Oradell	70	130	54
Cache la Poudre at Canon Mouth (1)	290	118	246
Clear Creek at Golden	185	138	134
Saint Vrain at Lyons	110	137	80

NOTE: \* - 1940-52 (ADJUSTED AVERAGES)  
NS - NO SURVEY  
(A) - AIR OBSERVED  
(B) - ON ADJACENT DRAINAGE

This Report Prepared by  
Jack N. Washichek and Don W. McAndrew  
Soil Conservation Service  
Colorado State University  
Fort Collins, Colorado

- Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- Observed flow plus by-pass to power plants.

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SOIL CONSERVATION SERVICE  
Snow Survey  
Colorado State University  
Fort Collins, Colorado

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# RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	MEASURED FIRST OF MONTH		
		THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1940-52
Antero	33.0	0	0	13.4
Barr Lake	32.2	12.6	20.6	22.3
Black Hollow	8.0	2.9	4.2	3.2
Boyd Lake	58.0	26.6	36.5	18.1
Cache la Poudre	9.5	7.9	9.4	7.0
Carter Lake	108.9	93.8	90.9	74.2
Chambers Lake	8.8	4.0	3.9	2.5
Cheeseman	79.0	24.2	18.5	52.1
Cobb Lake	34.3	5.5	9.4	9.5
Eleven Mile	81.9	27.7	60.7	74.2
Fossil Creek	11.6	6.4	9.9	6.6
Gross	43.1	18.3	20.1	- -
Halligan	6.4	3.2	3.4	3.4
Horsetooth	143.5	94.7	99.2	77.7
Lake Loveland	13.6	8.5	10.6	6.3
Lone Tree	9.2	0.9	7.9	6.5
Mariano	5.4	5.3	5.2	3.2
Marshall	10.3	1.1	1.7	3.1
Marston	18.9	15.4	12.1	14.6
Milton	24.4	1.1	12.8	11.7
Standly	18.5	7.9	9.1	11.4
Terry Lake	8.2	3.9	6.2	4.8
Union	12.7	6.4	2.5	7.8
Windsor	18.6	2.8	12.6	10.3

## SOIL MOISTURE

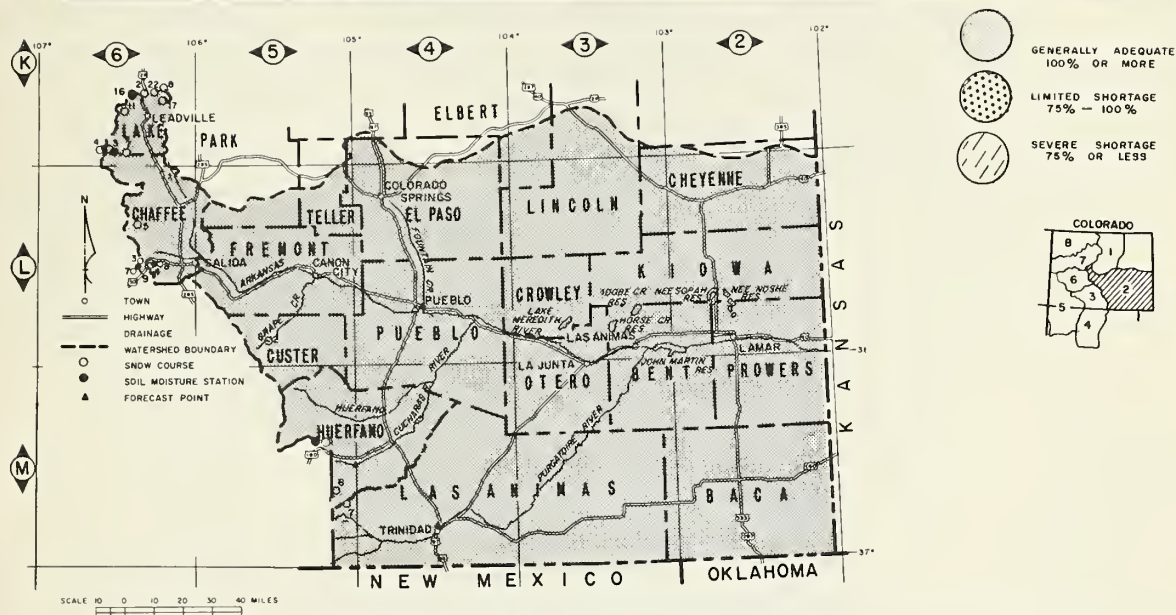
STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alpine Camp	3/18	6.9	3.1	3.0	3.5
Beaver Dam	3/18	7.3	3.1	3.0	3.4
Clear Creek	3/31	9.5	4.8	4.3	5.3
Feather	3/19	10.1	3.9	3.6	4.1
Guard Station	3/28	6.9	2.9	2.8	3.5
Hoop Creek	3/30	4.9	2.6	2.1	2.4
Hoosier Pass	3/30	7.8	NS	4.1	4.2
Kenosha Pass	3/30	4.4	1.9	1.7	1.9
Laramie Road	3/27	12.4	6.8	NS	6.6
Two Mile	3/18	9.1	4.6	4.1	5.3

ALL PROFILES 4 FEET DEEP

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WATERSHED II  
WATER SUPPLY OUTLOOK  
FOR THE SOIL CONSERVATION DISTRICTS IN THE  
**ARKANSAS RIVER WATERSHED IN COLORADO**  
as of  
April 1, 1965

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** — Contrary to the last few seasons, the Arkansas Drainage is loaded with snow and the resulting streamflow should be better than any since 1957.

**SNOW** — Snow pack is very good over the entire basin. It is currently 182% of the 1947-62 average. Because the snow pack extends into the lower elevations, the early water and the water in the smaller tributaries should be good this year. The high elevation snow is also way above normal and should sustain the flow of the larger rivers well into late summer.

**SOIL MOISTURE** — The soil moisture in the mountains is generally above normal and better than last year at this time. The current soil moisture condition should not materially affect the streamflow this summer.

**RESERVOIR STORAGE** — The carry-over storage along the Arkansas River is practically non-existent. Currently there is only 29,800 acre feet of storage in the major reservoirs.

**STREAMFLOW** — The Arkansas is forecast at 135 to 140% of average for the coming summer. The tributary streams and rivers are expected to flow 120 to 125% of average.

**"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"**

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

Will D. McCorkle, Area Conservationist.



# SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1940-52
<u>Arkansas River</u>						
Bigelow Divide	5L3	3/30	41	8.0	9.9	- -
Blue Lakes	5M6	3/29	15	5.4	6.0	- -
Bourbon	5M5	3/30	34	9.9	7.7	7.8*
Cooper Hill	6K23	3/28	64	12.6	7.2	- -
Cucharas Pass	5M7	3/29	35	9.4	12.7	- -
East Fork	6K17	3/30	51	13.8	8.8	10.7*
Four Mile Park	6K7	3/30	57	15.6	4.0	4.9
Fremont Pass	6K8	3/29	83	25.6	11.5	17.7
Garfield	6L8	3/24	97	31.1	13.0	- -
LaVeta Pass	5M1	3/29	45	13.4	10.6	8.3
Monarch Pass	6L4	3/29	79	24.5	16.6	19.6
St. Elmo	6L5	3/29	64	19.8	10.0	12.6*
Tennessee Pass	6K2	3/29	60	16.5	8.2	10.9
Tomichi	6L7	3/29	63	20.5	13.4	- -
Twin Lakes Tunnel	6K3	3/29	60	17.6	7.4	11.6
Westcliffe	5L2	3/30	43	11.4	8.3	5.2*

NOTE: \* - 1940-52 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AIR OBSERVED  
 (B) - ON ADJACENT DRAINAGE

# RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1940-52
Adobe Creek	61.6	0	0	13.7
Clear Creek	11.4	9.6	7.8	6.2
Cucharas	40.0	0	1.2	5.5
Great Plains	150.0	0	0	46.5
Horse Creek	26.9	0	0	5.9
John Martin	366.6	3.6	8.7	85.0
Meredith	41.9	0	0	11.6
Model	15.0	0	3.4	2.5
Sugar Loaf	17.4	5.2	4.2	7.5
Twin Lakes	57.9	11.4	17.1	19.5

MEASURED FIRST OF MONTH

# SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Garfield	3/30	6.7	NS	2.4	3.1
King	3/29	3.3	2.6	1.1	1.6
LaVeta Pass	3/30	11.9	4.0	4.3	10.0
Leadville	3/30	7.8	5.6	3.0	3.1
Twin Lakes Tunnel	3/30	4.5	3.3	0.7	2.5

ALL PROFILES 4 FEET DEEP

# STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	APRIL THROUGH SEPTEMBER		AVERAGE 1940-52
	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	
Arkansas at Pueblo (1)	441	135	323
Arkansas at Salida (1)	470	140	345
Cucharas near LaVeta	17	121	14
Purgatoire at Trinidad	54	120	45

- (1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

This Report Prepared by  
 Jack N. Washichek and Don W. McAndrew  
 Soil Conservation Service  
 Colorado State University  
 Fort Collins, Colorado

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UNITED STATES

DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Snow Survey  
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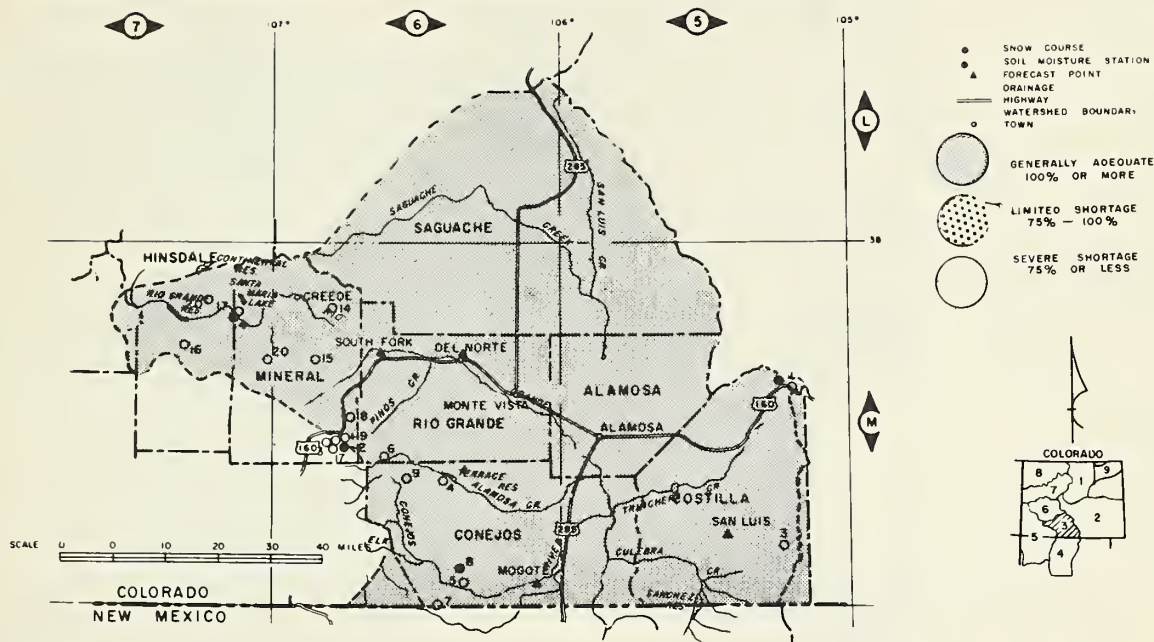
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WATERSHED III  
WATER SUPPLY OUTLOOK  
FOR THE SOIL CONSERVATION DISTRICTS IN THE  
**UPPER RIO GRANDE WATERSHED IN COLORADO**  
as of

April 1, 1965

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE**  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** — The San Luis Valley is virtually assured of the best surface water supplies since 1957. The San Juan mountains are loaded with snow. Snowfall during March was above normal and increased the snow pack materially since the March 1 readings.

**SNOW** — The snow pack is 150% of the 1948-62 average. Many of the snow courses were second or third of record. Wolf Creek and Santa Maria had more snow only in 1952. The snow pack on the Sangre De Cristo Range is also very good, 135% of normal.

**SOIL MOISTURE** — Soil moisture in the mountains generally is below normal, but similar to last year.

**RESERVOIR STORAGE** -- Current storage in the reservoirs is practically non-existent. These reservoirs rarely contain much water, but the current storage is less than one-half of normal.

**STREAMFLOW** — Streamflow is expected to be very good this summer. The abundant low elevation snow will provide much early water and much above normal snow at high elevation should sustain runoff into late summer.

**"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"**

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

Benny Martin, Area Conservationist,  
Durango, Colorado

# SNOW

SNOW		CURRENT INFORMATION			PAST RECORD	
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1949-52
<u>Rio Grande in Colorado</u>						
Cochetopa Pass	6L6	3/24	34	8.4	5.4	5.5*
Hiway	6M19	3/30	105	39.9	16.0	26.0*
Lake Humphreys	6M15	3/31	42	13.4	6.6	5.7*
Pass Creek	6M18	3/30	60	20.2	10.8	11.0*
Pool Table	6M14	3/27	43	11.3	4.2	6.5*
Porcupine	6M20	3/27	56	16.1	6.9	11.4*
Red Mountain Pass (B)	7M15	3/30	104	37.6	25.7	33.3*
Santa Maria	7M17	3/29	37	9.4	3.7	4.7
Upper Rio Grande	7M16	3/30	46	13.5	6.4	8.0
Wolf Creek Pass	6M1	3/30	114	44.2	21.2	30.6
Wolf Creek Summit (B)	6M17	3/30	102	46.0	18.9	30.0
<u>Alamosa River</u>						
Silver Lakes	6M4	3/31	41	11.8	9.2	6.3
Summitville	6M6	3/31	84	27.7	15.1	20.6
<u>Conejos River</u>						
Cumbres Pass	6M7	3/30	84	28.4	16.9	19.0
Platoro	6M9	3/28	80	27.8	NS	18.8*
River Springs	6M5	3/30	32	10.0	7.2	6.7
<u>Sangre De Cristo Range</u>						
Blue Lakes (B)	6M6	3/29	15	5.4	6.0	--
Cucharas Pass (B)	5M7	3/29	35	9.4	12.7	--
Culebra	6M3	3/30	41	11.3	7.4	10.0
LaVeta Pass	5M1	3/29	45	13.4	10.6	8.3

NOTE: \* - 1949-52 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AS OBSERVED  
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by  
 Jack N. Washichek and Don W. McAndrew  
 Soil Conservation Service  
 Colorado State University  
 Fort Collins, Colorado

# RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1949-67
Continental	26.7	1.7	1.4	6.1
Platoro	60.0	2.7	3.0	4.6
Rio Grande	45.8	7.0	5.1	14.3
Sanchez	103.2	5.3	5.4	10.7
Santa Maria	45.0	3.2	3.4	7.1
Terrace	17.7	3.3	1.2	3.3

MEASURED FIRST OF MONTH

# SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alberta Park	3/30	8.2	NS	3.3	4.3
Bristol View	3/29	6.1	2.4	2.5	3.4
LaVeta Pass	3/30	11.9	4.0	4.3	10.0
Mogote	3/30	10.7	4.6	4.2	6.1

ALL PROFILES 4 FEET DEEP

# STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	APRIL THROUGH SEPTEMBER		THIS YEAR AVERAGE	AVERAGE 1949-52
	FORECAST APRIL - SEPT.			
Alamosa above Terrace	104	153	68	
Conejos near Mogote	265	135	196	
Culebra at San Luis (2)	29	133	21	
Rio Grande at 30 Mile Bridge (1)	188	142	132	
Rio Grande nr Del Norte	740	150	492	
South Fork at South Fork	175	143	122	

- (1) Observed flow plus change in storage in Santa Maria, Rio Grande and Continental Reservoir
- (2) Observed flow plus changes in storage in Sanchez Reservoir

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 Colorado State University  
 Fort Collins, Colorado

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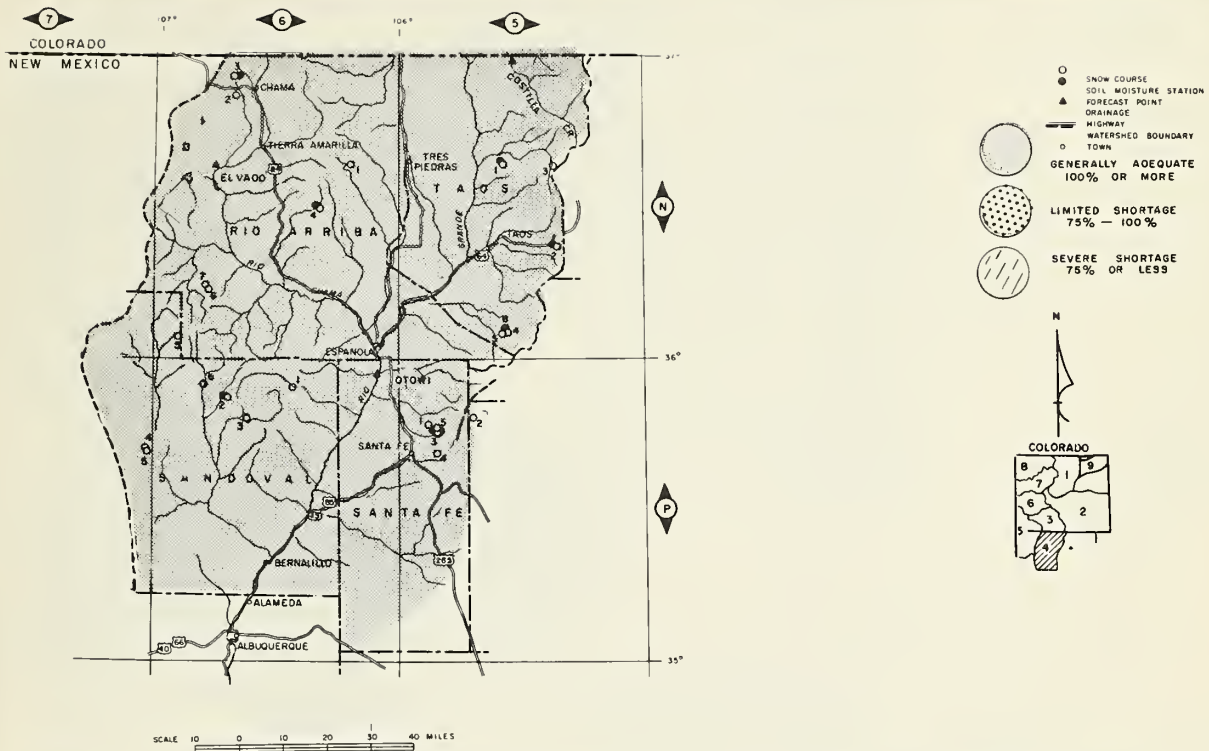


## RIO GRANDE WATERSHED IN NEW MEXICO

as of

April 1, 1965

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** -- The Rio Grande and its tributaries in Northern New Mexico will have better summer flows than any year since 1957. The mountains in Colorado at the headwaters of the Rio Grande have a near record snow pack.

**SNOW** -- The snow pack is 150% of normal in the Colorado mountains and is 155% of the 1947-62 average along the Rio Grande in New Mexico. Many of the snow courses in both states are second on record, the first record being in 1952.

**SOIL MOISTURE** -- Soil moisture in the mountains is generally below normal and similar to last year. Some of the snow water will be taken up by the mountain soils and never reach the valleys.

**RESERVOIR STORAGE** -- Currently there is only 25% of average carry-over storage contained in the major reservoirs in New Mexico. There is only 172,000 acre feet in storage along the Rio Grande.

**STREAMFLOW** -- Streamflow is expected to be very good this summer. The low elevation snow will provide good early water as well as good early flow in the small tributaries. The high elevation snow should sustain runoff into the late summer.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

Courtney A. Tidwell, State Conservationist,  
New Mexico

R. M. Bell, Area Conservationist,  
Santa Fe, New Mexico

## SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	AVERAGE (INCHES)
<u>Rio Grande (Colorado)</u>						
Culebra	6M3	3/30	41	11.3	7.4	10.0
Cumbers Pass	6M7	3/30	84	28.4	16.9	19.0
LaVeta Pass	5M1	3/29	45	13.4	10.6	8.3
Platoro	6M9	3/28	80	27.8	NS	18.8*
River Springs	6M5	3/30	32	10.0	7.2	6.7
Santa Maria	7M17	3/29	37	9.4	3.7	4.7
Silver Lakes	6M4	3/31	41	11.8	9.2	6.3
Summitville	6M6	3/31	84	27.7	15.1	20.6
Upper Rio Grande	7M16	3/30	46	13.5	6.4	8.0
Wolf Creek Pass	6M1	3/30	114	44.2	21.2	30.6
Aspen Grove (New Mexico)	5P1	3/31	22	6.4	5.3	3.2
Bateman	6N4	NS			10.0	11.6
Big Tesuque	5P3	3/30	29	8.5	6.4	4.3
Blue Bird Mesa	6P6	3/29	28	9.0	1.7	-
Capuline Peak	6N6	3/29	23	7.8	4.6	-
Chama Divide	6N2	3/29	21	6.3	0.0	1.9
Chamita	6N3	3/29	42	12.7	7.5	9.0
Cordova	5N5	3/30	51	16.4	11.5	10.8
Elk Cabin	5P4	3/30	12	4.2	3.6	1.8
Fenton Hill	6P2	3/29	26	7.0	2.9	2.9*
Hematite Park	5N3	3/29	23	6.4	4.3	4.1
Mora View	5N7	3/25	19	5.8	-	-
Pajarito Peak	6P4	3/29	4	1.5	0.4	-
Panchuela	5P2	3/26	25	4.8	1.3	1.6
Payrole	6N1	4/1	36	11.6	5.7	8.3
Philmont	5N6	NS			NS	-
Quemazon	6P1	3/29	41	12.0	6.3	7.9*
Red River	5N1	3/29	32	9.2	6.2	6.3
Rio En Medio	5P5	3/30	45	14.4	8.9	5.9*
Sandaval	6P3	3/29	27	7.7	3.4	-
Taos Canyon	5N2	3/30	24	7.3	3.6	4.3
Tres Ritos	5N4	3/25	34	8.5	6.8	4.5

NOTE: \* - 1949-51 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AIR OBSERVED  
 (B) - ON ADJACENT DRAINAGE

This Report Prepared by  
 Jack N. Washichek and Don W. McAndrew  
 Soil Conservation Service  
 Colorado State University  
 Fort Collins, Colorado

Rio Grande at San Marcial is Forecast at 123% of the Elephant Butte Irrigation District's normal.

## RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE
Alamogordo	122.1	1.5	58.0	67.2
Caballo	344.0	22.0	23.2	104.7
Conchas	280.3	3.3	99.9	237.6
Elephant Butte	2206.8	147.1	157.4	360.0
El Vado	194.5	2.6	2.9	16.9
McMillan-Avalon	37.0	18.0	18.0	18.3
Red Bluff (Tex)	307.0	307.0	32.3	67.1

MEASURED FIRST OF MONTH

## SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
<u>Colorado</u>					
Alberta Park	3/30	8.2	NS	3.3	4.3
Bristol View	3/29	6.1	2.4	2.5	3.4
Mogote	3/30	10.7	4.6	4.2	6.1
<u>New Mexico</u>					
Aqua Piedra	3/30	7.2	2.7	2.4	4.7
Bateman	3/30	6.7	NS	0.7	2.7
Big Tesuque	3/30	3.7	1.7	1.7	2.4
Chamita	3/29	8.0	5.5	2.7	5.4
Fenton Hill	3/30	6.5	3.7	3.8	-
Red Summit	3/30	4.8	1.6	1.5	2.1
Rio En Medio	3/30	3.5	1.9	1.1	1.5
Taos Canyon	3/29	3.3	2.2	1.8	2.9

ALL PROFILES 4 FEET DEEP

## STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR AVERAGE	AVERAGE 1949-51
Costilla at Costilla (11)	31	124	25
Pecos at Pecos	80	150	53
Rio Chama nr La Puente	270	126	214
Rio Grande at Otowi (10)*	1100	181	609
Rio Grande at San Marcial (10)*	850	200	424
Rio Hondo nr Valdez	24	133	18
Red River at Questa	30	120	25

(10) Observed flow plus changes in storage in El Vado Reservoirs.

\* Rio Grande at Otowi and Rio Grande at San Marcial Forecast and Average Mar-July inclusive.

\*\* Red River at Questa Forecast and Average April - July inclusive.

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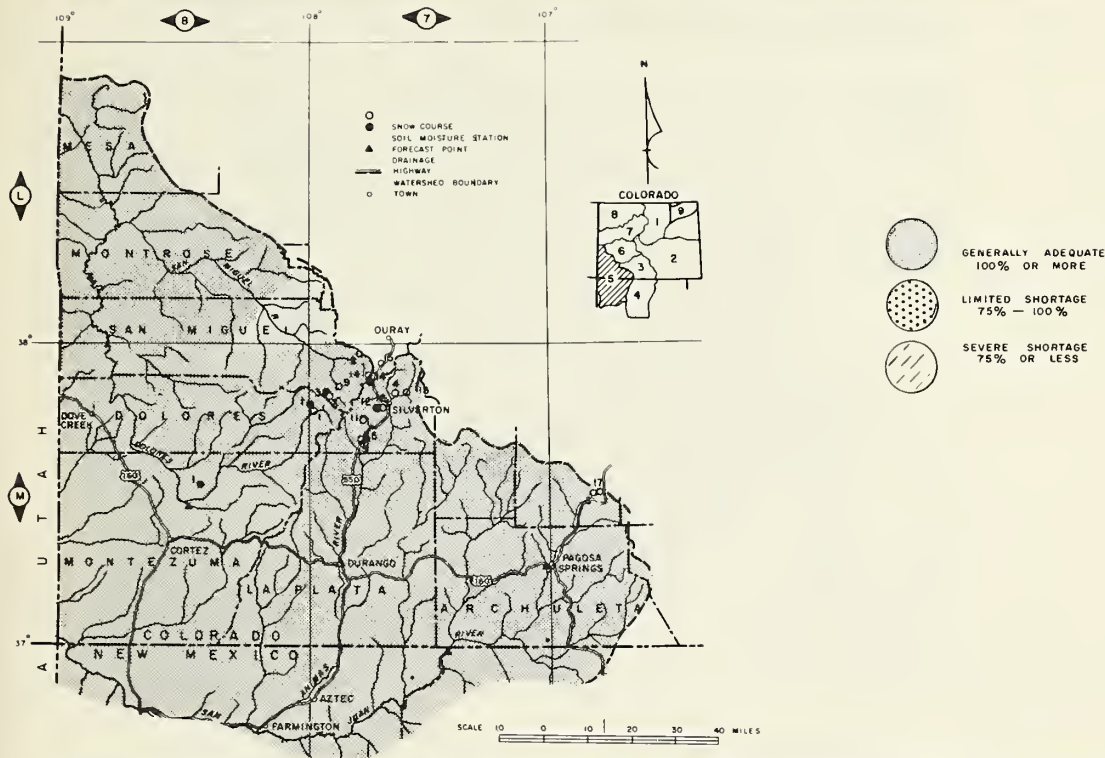
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WATER SUPPLY OUTLOOK      WATERSHED V  
FOR THE SOIL CONSERVATION DISTRICTS IN THE  
**SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN**  
**WATERSHEDS IN COLORADO AND NEW MEXICO**

as of  
April 1, 1965

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE**  
**COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO**



**GENERAL** — Water supplies should be better in this area than any in the state. Snow is piled high in the mountains and soil in the mountains as well as the valleys, is in excellent conditions. Still another month of snowfall is possible.

**SNOW** — Snow pack on the Wolf Creek Pass area is approaching the record year of 1952. Surprisingly good snow cover is evident even at the lower locations. The snow pack on the Animas is 125% of normal while the Dolores has about 137% of the 15 year average.

**SOIL MOISTURE** — Mountain soils are wetter than usual. This reflects some snow melt at the medium elevations. Some soil moisture stations indicate near capacity of water. Valley soils are also reported very wet.

**RESERVOIR STORAGE** — Carry-over storage is slightly lower than normal in Vallecito Reservoir, but Ground Hog has just slightly more than last year and normal. Navajo Reservoir now contains 251,000 acre feet.

**FORECASTS** — Forecasts in this area are higher than any other place in the state. Expected flows are from 125% of normal on the Florida to a high of 159% on the San Juan at Rosa. Forecasts are based on normal precipitation for the remainder of the year.

**"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"**

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado  
Benny Martin, Area Conservationist,  
Durango, Colorado  
Darl Beach, Area Conservationist,  
Grand Junction, Colorado

C. A. Tidwell, State Conservationist  
New Mexico  
Walter B. Rumsey, Area Conservationist  
Albuquerque, New Mexico



# SNOW

SNOW		CURRENT INFORMATION			PAST RECORD		
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)		
					LAST YEAR	AVERAGE 1940-52	
<u>San Juan River</u>							
Chama Divide	(B)	6N2	3/29	21	6.3	0.0	1.9
Chamita	(B)	6N3	3/29	42	12.7	7.5	9.0
Upper San Juan		6M3	3/30	123	49.8	22.3	34.4
Wolf Creek Pass	(B)	6M1	3/30	114	44.2	21.2	30.6
Wolf Creek Summit		6M17	3/30	120	46.0	18.7	30.0
<u>Animas River</u>							
Cascade		7M5	3/30	52	15.3	10.1	12.9
Howardville		7M13	3/30	57	15.6	9.5	12.3*
Ironton Park	(B)	7M6	3/29	60	17.9	15.8	13.4
Mineral Creek		7M14	3/30	70	21.3	11.9	15.7*
Molas Lake		7M12	3/30	69	19.6	10.1	14.3*
Red Mountain Pass		6M19	3/30	104	37.6	25.7	33.3*
Silverton Sub-Station		7M4	3/30	36	10.0	6.2	6.0
Spud Mountain		7M11	3/30	96	30.1	16.0	26.0*
<u>Dolores River</u>							
Lizzard Head		7M3	3/30	72	22.7	12.3	18.3
Rico		7M1	3/30	36	10.4	6.6	7.6
Telluride		7M2	3/29	41	10.8	8.3	6.7
Trout Lake		7M9	3/29	68	19.2	10.8	13.6*

NOTE: \* - 1940-52 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AIR OBSERVED  
 (B) - ON ADJACENT DRAINAGE

## STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	APRIL THROUGH SEPTEMBER		
	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1940-52
Animas at Durango	580	127	456
Dolores at Dolores	385	148	260
Florida nr Hermosa	74	125	59
La Plata at Hesperus	37	137	27
Los Pinos at Bayfield	305	138	220
Piedra Creek nr Piedra	285	156	182
San Juan at Rosa NM	950	159	597

\* OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR

## RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1940-52
Ground Hog	21.7	7.0	6.7	6.4
Navajo	1036.0	251.0	-	-
Vallecito	126.3	24.7	32.4	45.8

MEASURED FIRST OF MONTH

## SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Cascade	3/30	9.1	6.5	5.0	6.7
Dolores	3/29	19.6	13.5	-	5.2
Lizzard Head	3/30	11.8	8.7	3.8	6.9
Mineral Creek	3/30	5.7	4.1	2.0	3.3
Molas Lake	3/30	9.4	6.2	2.4	3.5
Rico	3/30	13.8	12.5	1.7	6.9

ALL PROFILES 4 FEET DEEP

This Report Prepared by  
 Jack N. Washichek and Don W. McAndrew  
 Soil Conservation Service  
 Colorado State University  
 Fort Collins, Colorado

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SOIL CONSERVATION SERVICE

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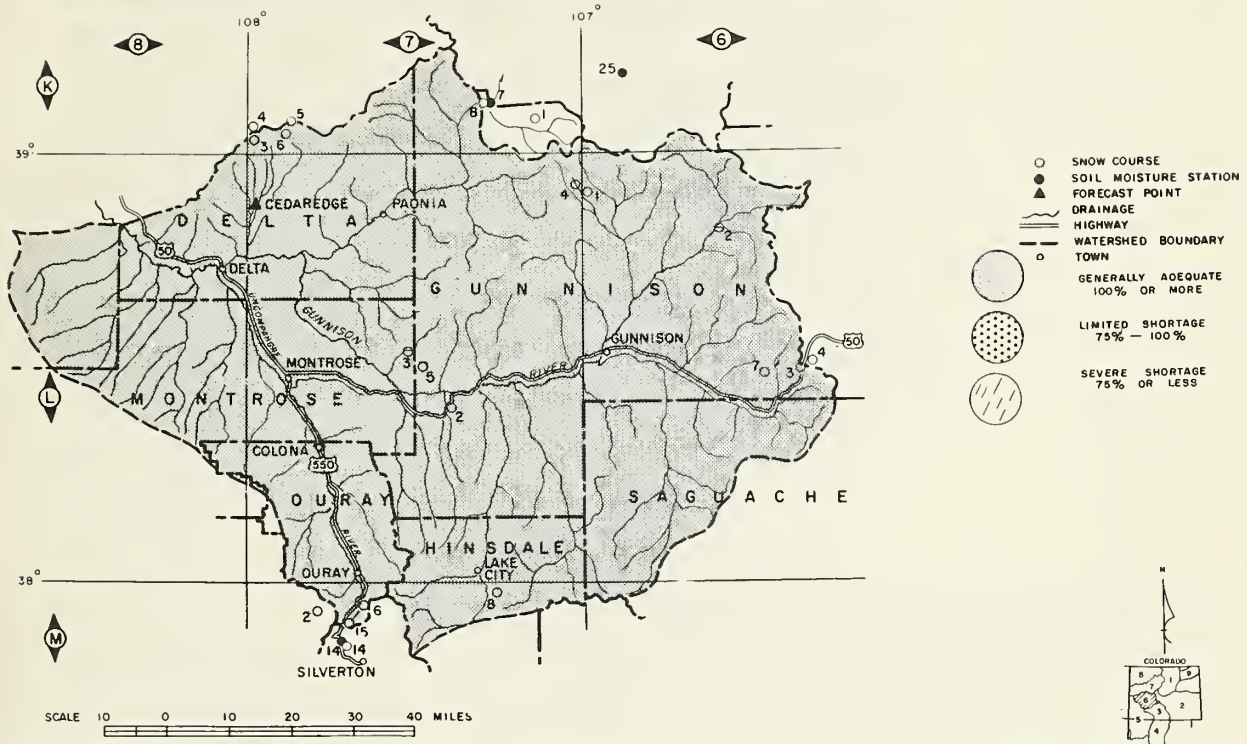
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# GUNNISON RIVER WATERSHED IN COLORADO as of

April 1, 1965

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** -- Streamflow should be considerably above normal this summer in the Gunnison Basin. Surface Creek will have more than normal water supplies this summer, but water will not be abundant.

**SNOW** -- Snowfall during March was above normal, off setting the below average snowfall during February. Current snow pack is 118% of normal on the Gunnison and 127% of the 15 year average on the Uncompahgre. Snow in the headwaters of the Gunnison is excellent, but tapers off in the smaller tributaries to the West.

**SOIL MOISTURE** -- Soil moisture stations in the Gunnison Basin indicate near normal soil moisture conditions in the mountain areas. Valley soils are reported in fair condition.

**RESERVOIR STORAGE** -- Carry-over storage in Taylor Reservoir is 74,600 acre feet compared to a normal of 58,300 acre feet. Last year at this time there was only 44,600 acre feet of storage.

**FORECASTS** -- Forecasts range from a high of 141% of the 15 year average on the Uncompahgre to a low of 118% of normal on Surface Creek. Water supplies should be adequate in all areas.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

Dearl Beach, Area Conservationist,  
Grand Junction, Colorado

## SNOW

SNOW		CURRENT INFORMATION			PAST RECORD	
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1949-52
<u>Gunnison River</u>						
Alexander Lakes	7K3	3/30	79	24.9	14.7	23.8
Black Mesa	7L5	3/23	62	19.6	NS	--
Blue Mesa	7L2	3/29	38	9.7	8.5	9.8*
Butte	6L11	3/27	85	25.3	--	--
Cochetopa Pass	6L6	3/24	34	8.4	5.4	5.5*
Crested Butte	6L1	3/25	72	21.9	11.3	15.0
Keystone	7L3	3/24	97	31.1	13.8	--
Lake City	7M8	3/28	41	11.1	5.3	8.6
Long Gulch	7L4	3/24	48	12.4	NS	--
Mesa Lakes (B)	7K4	3/29	69	20.8	15.2	18.5
Monarch Pass (B)	6L4	3/29	79	24.5	16.6	19.6
McClure Pass	7K8	3/29	72	20.6	12.0	16.4*
Mineral Creek (B)	7M14	3/30	70	21.3	11.9	15.7*
North Lost Trail (B)	7K1	4/3	68	23.7	11.5	15.7
Park Cone	6L2	3/27	66	17.5	7.7	12.5
Park Reservoir	7K6	4/1	79	26.5	15.5	27.1
Porphyry Creek	6L3	3/29	74	23.7	18.6	18.0
Tomichi	6L7	3/29	63	20.5	13.4	--
Trickle Divide (B)	7K5	4/1	84	28.2	18.9	28.9
<u>Uncompahgre River</u>						
Ironton Park	7M6	3/29	60	17.9	15.8	13.4
Lizzard Head	7M3	3/30	72	22.7	12.3	18.3
Lone Cone	7M7	3/30	61	18.8	--	--
Red Mountain Pass (B)	7M15	3/30	104	37.6	25.7	33.3*
Telluride	7M2	3/29	41	10.8	8.3	6.7
Trout Lake	7M9	3/29	68	19.2	10.8	13.6*

NOTE: \* - 1949-52 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AIR OBSERVED  
 (B) - ON ADJACENT ORAINAGE

## RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1949-52
Taylor	106.2	74.6	44.6	58.3

MEASURED FIRST OF MONTH

## SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Grand Mesa	4/1	12.5	6.6	9.1	- -
King	3/29	3.3	2.6	1.1	1.6
Mineral Creek	3/30	5.7	4.1	2.0	3.3
Placita	3/29	9.3	5.3	3.6	6.7

ALL PROFILES 4 FEET DEEP

## STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	APRIL THROUGH SEPTEMBER		
	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE 1949-52
Gunnison nr Grand Junction	1800	138	1305
Surface Creek nr Cedaridge	20	118	17
Uncompahgre at Colona	196	141	139

This Report Prepared by  
 Jack N. Washichek and Don W. McAndrew  
 Soil Conservation Service  
 Colorado State University  
 Fort Collins, Colorado

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 SOIL CONSERVATION SERVICE

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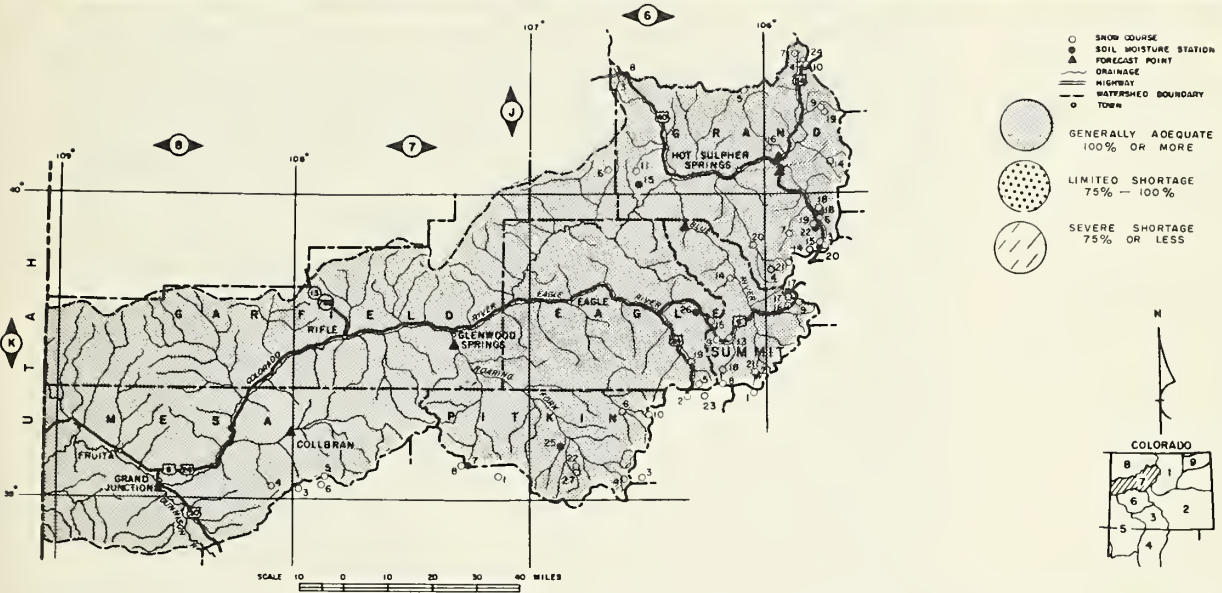
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WATER SUPPLY OUTLOOK  
FOR THE SOIL CONSERVATION DISTRICTS IN THE  
**COLORADO RIVER WATERSHED IN COLORADO**  
as of  
April 1, 1965

**U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE**  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** -- Snow pack over the entire Colorado River Basin increased percentage wise over the previous month. With some snowfall expected during April, the Colorado River has one of the best snow packs on record.

**SNOW** -- The main stem of the Colorado River has 132% of normal snow cover. There is a surprisingly good snow pack at the lower elevations which will produce good early and small tributary water. The Plateau Creek has just above normal snow.

**SOIL MOISTURE** -- Mountain soils are wetter than last year and almost normal for this date.

**RESERVOIR STORAGE** -- Reservoir storage is far below average and below normal for this date. Granby Reservoir contains 45,400 acre feet.

**FORECASTS** -- Forecasts range from 130 to 150% of average for the Colorado River and tributaries. Plateau Creek is the only exception at 108% of normal. Forecasts are based on normal precipitation for the remainder of the year.

**"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"**

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

Dearl Beach, Area Conservationist  
Grand Junction, Colorado  
J. L. Hall, Area Conservationist,  
Glenwood Springs, Colorado

## SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD	
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1949-52
<u>Colorado River</u>						
Arrow	5K6	3/29	59	16.6	11.6	12.5
Berthoud Pass	5K3	3/29	68	20.2	13.5	15.7
Berthoud Summit	5K14	3/31	76	23.8	17.4	20.4*
Blue River	6K21	3/30	53	15.6	6.2	9.7*
Cooper Hill	6K23	3/28	64	12.6	7.2	-
Fiddlers Gulch	6K5	3/31	69	19.0	12.2	17.9
Fremont Pass	6K8	3/30	70	20.9	11.5	17.7
Frisco	6N3	3/31	45	12.9	5.6	8.6*
Glen Mar Ranch	6K20	3/29	46	12.4	9.4	8.7
Gore Pass	6J11	3/30	49	16.0	8.6	10.9*
Granby	5J16	3/29	40	12.3	6.1	7.9*
Grand Lake	5J19	3/28	48	13.5	7.8	9.0*
Grizzly Peak	5K9	3/30	83	27.4	14.5	19.2
Hoosier Pass (B)	6K1	3/30	66	20.4	9.3	14.2
Jones Pass	5K21	3/29	65	18.2	11.9	15.3*
Lake Irene	5J10	3/27	89	27.1	15.4	23.7
Lapland	5K9	3/31	51	16.1	8.1	12.0
Lulu	5J7	3/27	75	21.7	14.2	18.2
Lynx Pass	6J6	3/30	53	16.3	11.3	13.0
McKinzie Gulch	6K28	3/25	44	9.5	5.8	-
Middle Fork Campground	5K4	3/29	55	14.4	10.6	9.8
Milner	5J24	3/27	68	18.4	10.3	12.4*
Monarch Lake	5J14	3/29	47	13.6	9.5	11.0
North Inlet to Grand Lake	5J9	3/29	50	14.3	6.8	10.0
Pando	6K19	3/30	51	14.0	10.8	11.6*
Phantom Valley	5J4	3/27	58	16.4	8.5	11.5
Ranch Creek	5K18	3/29	47	12.9	8.3	9.8*
Shrine Pass	6K9	3/31	74	24.2	15.4	18.7
Snake River	5K16	3/30	49	14.3	6.5	9.2*
Summit Ranch	6K14	3/30	52	13.7	5.7	8.8*
Tennessee Pass	6K2	3/29	60	16.5	8.2	10.9
Vail Pass	6K15	3/31	81	26.7	13.2	19.2*
Vasquez Creek	5K19	3/29	60	15.7	11.2	13.4
Willow Creek Pass	6J5	3/31	50	14.5	8.9	14.3
<u>Roaring Fork River</u>						
Aspen	7J22	3/29	95	25.1	12.2	-
Independence Pass Tunnel	6K4	3/29	83	25.6	13.6	18.7
Ivanhoe	6K10	4/2	72	20.0	16.1	18.8
Lift	7K27	3/29	103	29.9	16.8	18.8*
McClure Pass	7K8	3/29	72	20.6	12.0	16.4*
Nast	6K6	3/29	50	11.1	4.7	6.3
North Lost Trail	7K1	4/3	68	23.7	11.5	15.7
<u>Plateau Creek</u>						
Alexander Lake (B)	7K3	3/30	79	24.9	14.7	23.8
Mesa Lakes	7K4	3/29	69	20.8	15.2	18.5
Park Reservoir (B)	7K6	4/1	79	26.5	15.5	27.1
Trickle Divide	7K5	4/1	84	28.2	18.9	28.9

NOTE: \* - 1948-52 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AIR OBSERVED  
 (B) - DN ADJACENT DRAINAGE

## RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	5 YEAR AVERAGE 1948-52
Granby	465.5	45.4	146.5	187.5
Green Mountain	146.9	61.1	55.6	58.9
Vega	32.9	5.8	6.4	-
Williams Fork	96.8	15.8	20.4	-

## SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Berthoud Pass	3/30	3.9	2.5	2.8	2.4
Blue River	3/30	4.2	2.4	2.1	2.4
Gore	3/31	4.9	2.3	2.2	2.7
Grand Mesa	4/1	12.5	6.6	9.1	-
Muddy Pass	3/30	11.1	7.9	5.8	6.5
Placita	3/29	9.3	5.3	3.6	6.7
Ranch Creek	3/26	8.7	5.0	4.5	5.3
Vail	NS	12.3	NS	4.4	8.9
Vasquez Siphon	3/26	11.0	6.9	6.2	7.9

ALL PROFILES 4 FEET DEEP

## STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	APRIL THROUGH SEPTEMBER		THIS YEAR AVERAGE	AVERAGE 1948-52
	FORECAST APRIL - SEPT.	FORECAST		
Blue River abv Green Mt.	350	128	274	
Colo. River abv Glenwood Springs (5)	2050	132	1556	
Colo. River nr Granby (4)	300	129	233	
Plateau Cr. nr Collbran	53	108	49	
Roaring Fork at Glenwood Springs (6)	1125	148	762	
Williams Fork nr Parshall (3)	100	130	77	
Willow abv Willow Creek	64	133	48	
Colorado River nr Cameo	3300	149	2213	

- (3) Plus diversions through Jones Pass Tunnel.  
 (4) Observed flow plus diversions by Adams tunnel and Grand River ditch plus change in storage in Granby Reservoir.  
 (5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.  
 (6) Observed flow plus diversion through Twin Lakes tunnel

This Report Prepared by  
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 Soil Conservation Service  
 Colorado State University  
 Fort Collins, Colorado

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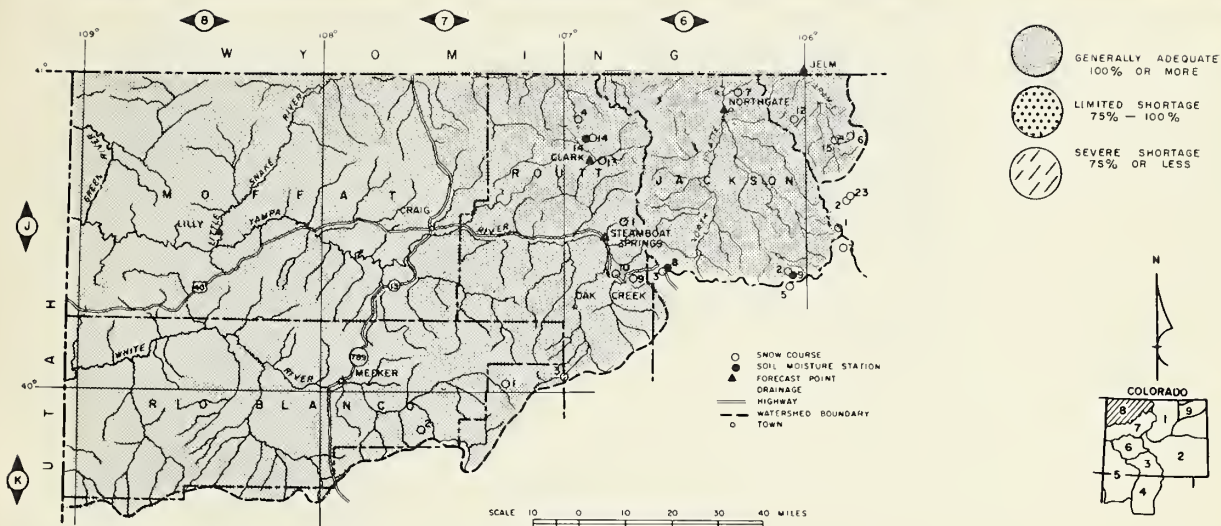
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WATER SUPPLY OUTLOOK  
FOR THE SOIL CONSERVATION DISTRICTS IN THE  
**YAMPA, WHITE, AND NORTH PLATTE**  
**RIVERS WATERSHEDS IN COLORADO**

WATERSHED VIII

as of  
April 1, 1965

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** -- Water supplies should be adequate this summer in all of the Yampa, White and North Platte Watersheds. The limited farm and ranch land in these areas should have water for a good part of the summer. Length of irrigation season will vary with the summer temperatures.

**SNOW** -- Snowfall was slightly above average during March. This brought the season total to 118% of normal on the North Platte, 117% of normal on the Yampa and 126% of normal on the White. Nine new snow courses were installed on the Continental Divide North of Rabbit Ears Pass. Several of these snow courses have exceedingly high snow records. All of these courses have over 100 inches of snow at the present time.

**SOIL MOISTURE** -- There are 5 soil moisture stations in this area. The only station that indicates more moisture in the soil than normal is the Muddy Pass unit, all the rest indicate nearly normal moisture. The stations indicate the mountain soil contain just about half of normal moisture.

**FORECASTS** -- Forecasts are generally in the 130% range except on the Laramie and North Platte Drainages. Here forecasts are slightly lower, but still above normal.

**"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"**

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

J. L. Hall, Area Conservationist,  
Glenwood Springs, Colorado



## SNOW

SNOW		CURRENT INFORMATION			PAST RECORD	
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1946-52
<u>North Platte River</u>						
Cameron Pass	5J1	3/30	79	27.7	25.4	27.4
Columbine Lodge	6J3	3/30	86	31.3	20.9	25.5
Deadman Hill (B)	5J6	4/1	56	17.5	14.8	17.5
McIntyre (B)	5J15	3/30	51	14.4	NS	11.8*
Northgate	6J7	3/29	34	6.9	5.5	6.7*
Park View	6J2	3/31	43	10.8	7.3	10.1
Roach	6J12	3/26	66	24.9	NS	20.2
Willow Creek Pass (B)	6J5	3/31	50	14.5	8.9	14.3
<u>Yampa River</u>						
Bear River	7J3	3/30	51	15.0	9.6	11.5*
Clark	6J13	3/31	45	14.6	10.7	- -
Columbine Lodge (B)	6J3	3/30	86	31.3	20.9	25.5
Dry Lake	6J1	3/29	73	25.5	18.9	21.7
Elk River	6J4	3/31	64	22.9	17.1	18.4
Hahn's Peak	6J14	3/31	51	17.8	14.1	- -
Lynx Pass (B)	6J6	3/39	53	16.3	11.3	13.0
Rabbit Ears	6J9	3/30	87	30.8	24.9	31.0
Yampa View	6J10	3/30	54	18.1	15.5	15.9*
<u>White River</u>						
Burro Mountain	7K2	3/27	66	23.2	11.3	19.3
Rio Blanco	7J1	3/28	61	22.9	15.5	17.3

NOTE: \* - 1946-52 (ADJUSTED AVERAGES)  
 NS - NO SURVEY  
 (A) - AIR OBSERVED  
 (B) - ON ADJACENT DRAINAGE

## SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Hahn's Peak	3/30	19.0	8.9	9.7	- -
Laramie Road	3/27	12.4	6.8	NS	6.6
Muddy Pass	3/30	11.1	7.9	5.8	6.5
Two Mile	3/18	9.1	4.6	4.1	5.3
Willow Pass	3/31	9.5	6.2	6.6	6.5

ALL PROFILES 4 FEET DEEP

## STREAMFLOW FORECAST (1,000 AC. FT.)

STREAM AND STATION	APRIL THROUGH SEPTEMBER		
	FORECAST APRIL - SEPT.	THIS YEAR % AVERAGE	AVERAGE (INCHES)
Elk at Clark	275	134	205
Laramie at Jelm	120	107	112
Little Snake at Lilly	400	125	321
White at Meeker	410	124	332
Yampa at Maybell	1280	139	923
Yampa at Steamboat Spr.	385	132	292

This Report Prepared by  
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 Fort Collins, Colorado

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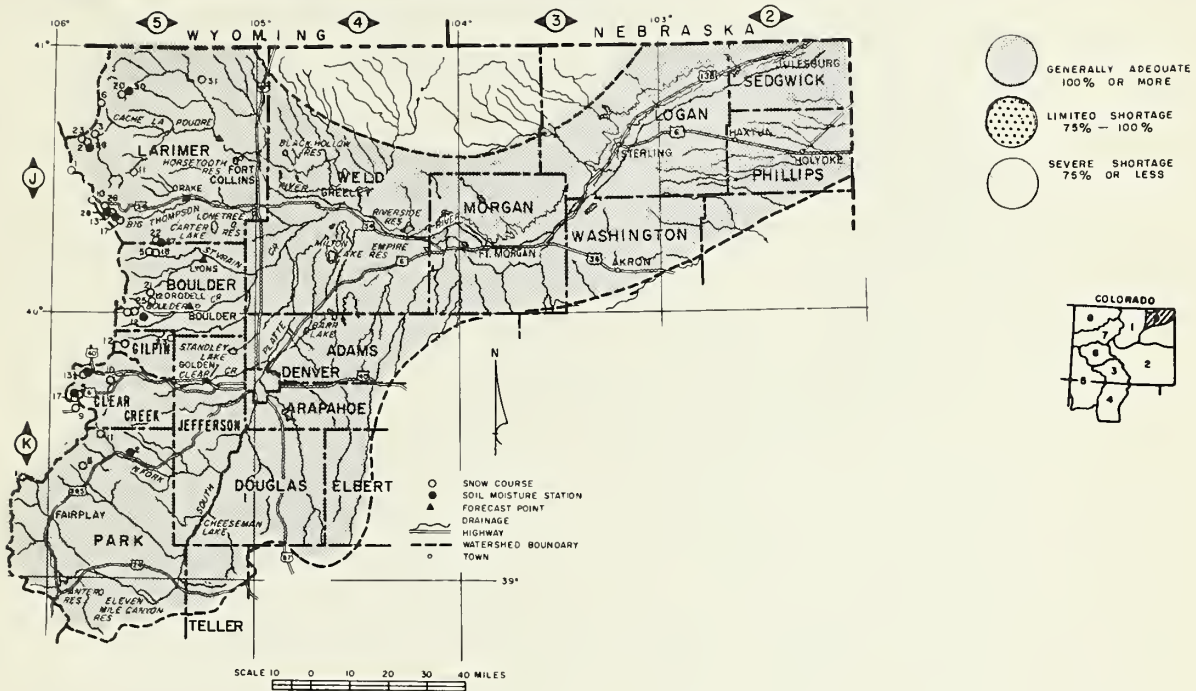
WATER SUPPLY OUTLOOK  
FOR THE SOIL CONSERVATION DISTRICTS IN THE

# LOWER SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

April 1, 1965

U. S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE  
COLORADO EXPERIMENT STATION - STATE ENGINEERS OF COLORADO AND NEW MEXICO



**GENERAL** — Water supplies should be adequate for most irrigation requirements. Water conservation will have to be watched to be sure of good supplies for the entire year.

**SNOW** — snow pack over the entire South Basin is now 126% of the 15 year average. The St. Vrain and Clear Creek are the highest percentage wise and decrease as you go North toward the Wyoming line.

**SOIL MOISTURE** — Mountain soils are just slightly drier than usual. This should not retard runoff too much. Valley soils are reported as extremely dry. One report indicated soils are dry as the dust bowl days.

**RESERVOIR STORAGE** — Carry-over storage in the major reservoirs in this area is relatively good. All but Prewitt contain normal or better storage. Prewitt is empty.

**FORECASTS** — Forecasts are based on normal amounts of precipitation for the remainder of the year. Forecasts range from a low of 116 on the Cache La Poudre and Big Thompson to a high of 137 on the Clear and St. Vrain.

"THE CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY"

ISSUED BY: SOIL CONSERVATION SERVICE

F. A. Mark, State Conservationist,  
Colorado

Wallace L. Bruce, Area Conservationist  
Sterling, Colorado

## SNOW

SNOW		CURRENT INFORMATION			PAST RECORD	
SNOW COURSE	NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)	
					LAST YEAR	AVERAGE 1948-52
South Platte River and Tributaries						
Baltimore	5K23	3/31	33	9.0	6.6	- -
Berthoud Falls	5K13	3/31	64	20.9	12.8	14.5*
Big South	5J3	3/27	22	4.1	1.9	2.9
Boulder Falls	5J25	3/31	58	20.3	10.1	15.1*
Cameron Pass	5J1	3/30	79	27.7	25.4	27.4
Chambers Lake	5J2	3/27	51	15.4	7.0	9.7
Copeland Lake	5J18	3/31	34	10.0	3.3	5.3*
Deadman Hill	5J6	4/1	56	17.5	14.8	17.5
Deer Ridge	5J17	3/30	30	8.6	4.0	5.9*
Empire	5K10	3/31	41	11.1	7.5	8.1*
Geneva Park	5K11	3/30	30	8.5	3.8	4.1*
Grizzly Peak (B)	5K9	3/30	83	27.4	14.5	19.2
Hidden Valley	5J13	3/30	49	13.8	10.0	12.7
Hoosier Pass	6K1	3/30	66	20.4	9.3	14.2
Hour Glass Lake	5J11	3/31	35	10.2	4.7	8.6
Jefferson Creek	5K8	3/30	51	13.8	5.4	10.4*
Lake Irene (B)	5J10	3/27	89	27.1	15.4	23.7
Long's Peak	5J22	3/28	65	17.8	7.5	12.5*
Lost Lake	5J23	3/27	57	15.1	9.0	13.0
Loveland Lift No. 1	5K24	3/30	97	32.9	20.3	- -
Loveland Pass	5K5	3/30	63	19.9	12.7	16.7
Pine Creek	5J31	3/29	12	3.3	1.2	- -
Red Feather	5J10	3/29	32	7.5	6.7	8.8*
Two Mile	5J26	3/30	60	18.0	9.1	16.4*
University Camp	5J8	3/31	77	27.7	13.0	24.4
Ward	5J21	3/29	39	10.1	3.5	7.2*
Wild Basin	5J5	3/31	62	17.2	7.8	14.7

NOTE: \* - 1948-52 (ADJUSTED AVERAGES)

NS - NO SURVEY

(A) - AIR OBSERVED

(B) - ON ADJACENT DRAINAGE

## STREAMFLOW FORECAST (1,000 AC. FT.)

APRIL THROUGH SEPTEMBER

STREAM AND STATION	FORECAST APRIL - SEPT.	THIS YEAR AVERAGE	AVERAGE 1948-52
Big Thompson at Drake (2)	125	114	110
Boulder at Orodell	70	130	54
Cache La Poudre at Canon Mouth (1)	290	118	246
Clear Creek at Golden	185	138	134
Saint Vrain at Lyons	110	137	80

- (1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.
- (2) Observed flow plus by-pass to power plants.

This Report Prepared by  
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 Colorado State University  
 Fort Collins, Colorado

## RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	15 YEAR AVERAGE 1948-52
Carter	108.9	93.8	90.9	74.2
Cheeseman	79.0	24.2	18.5	52.1
Eleven Mile	81.9	27.7	60.7	74.2
Empire	37.7	25.2	32.2	28.2
Horsetooth	143.5	94.7	89.2	77.7
Jackson	35.4	34.2	34.4	33.5
Julesburg	28.2	22.7	21.2	21.1
Point of Rocks	70.0	42.3	44.0	59.0
Prewitt	32.8	0	8.4	20.8
Riverside	57.5	53.9	59.1	49.0

MEASURED FIRST OF MONTH

## SOIL MOISTURE

STATION	DATE OF SURVEY	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE (ALL PAST DATA)
Alpine Camp	3/18	6.9	3.1	3.0	3.5
Beaver Dam	3/18	7.3	3.1	3.0	3.4
Clear Creek	3/31	9.5	4.8	4.3	5.3
Feather	3/19	10.1	3.9	3.6	4.1
Guard Station	3/28	6.9	2.9	2.8	3.5
Hoop Creek	3/30	4.9	2.6	2.1	2.4
Hoosier Pass	3/30	7.8	NS	4.1	4.2
Kenosha Pass	3/30	4.4	1.9	1.7	1.9
Laramie Road	3/27	12.4	6.8	NS	6.6
Two Mile	3/18	9.1	4.6	4.1	5.3

ALL PROFILES 4 FEET DEEP

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# LIST of COOPERATORS

The following organizations cooperate in snow surveys for the Colorado, Platte, Arkansas and Rio Grande watersheds. Many other organizations and individuals furnish valuable information for the snow survey reports. Their cooperation is gratefully acknowledged.

## STATE

Colorado State Engineer  
New Mexico State Engineer  
Nebraska State Engineer  
Colorado Experiment Station  
Rocky Mountain Forest and Range Experiment Station

## FEDERAL

Department of Agriculture  
    Forest Service  
    Soil Conservation Service  
  
Department of Interior  
    Bureau of Reclamation  
    Geological Survey  
    National Park Service  
    Indian Service  
  
Department of Commerce  
    Weather Bureau  
  
War Department  
    Army Engineer Corps  
  
Atomic Energy Commission

## INVESTOR OWNED UTILITIES

Colorado Public Service Company  
Public Service Company of New Mexico

## MUNICIPALITIES

City of Denver              City of Greeley  
City of Boulder             City of Fort Collins

## WATER USERS ORGANIZATIONS

Arkansas Valley Ditch Association  
Colorado River Water Conservation District

## IRRIGATION PROJECTS

Farmers Reservoir and Irrigation Company  
San Luis Valley Irrigation District  
Santa Maria Reservoir Company  
Costilla Land Company  
Uncompahgre Valley Water Users' Association  
Twin Lakes Reservoir and Canal Company  
Trinchera Irrigation Co.

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